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NOTES ON GEOGRAPHIC DISTRIBUTION

Amphibia, Hylidae, *Osteocephalus cabrerai* Cochran and Goin, 1970: First confirmed records from Ecuador with distribution map

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ABSTRACT: We provide the first confirmed report of *Osteocephalus cabrerai* (Cochran and Goin 1970) from Amazonian Ecuador. Two previous reports actually correspond to *O. buckleyi*.

Osteocephalus cabrerai was described by Cochran and Goin (1970). The holotype is a female collected in Caño Guayacá, Departamento Amazonas, Colombia. Trueb and Duellman (1971) synonymized *O. cabrerai* under *O. buckleyi* and this decision was followed by all systematic accounts until Duellman and Mendelson (1995) resurrected *O. cabrerai* based on a comparison of the holotype with a single specimen from San Jacinto, Departamento Loreto, Peru (KU 221927). Duellman and Mendelson (1995) characterized *O. cabrerai* as predominantly green in dorsal coloration and lacking black radiating lines in the iris. Subsequent authors assigned to *O. cabrerai* individuals similar to *O. buckleyi* that possessed one or both characters (*e.g.*, Lynch 2002; Ron and Pramuk 1999). In a recent review, Jungfer (2010) determined that KU 221927 is in fact *O. buckleyi* and that green dorsal coloration and/or absence of black radiating lines on the iris cannot be used to discriminate unequivocally *O. cabrerai* from *O. buckleyi*. Thus, previous reports of *O. cabrerai* need to be validated under the new diagnostic characters proposed by Jungfer (2010).

Herein we present the first confirmed reports of *O. cabrerai* from Ecuador based on specimens collected at two localities in Provincia de Sucumbíos (Figure 1; permit no. 3794 DNAVS/MA). Specimens are deposited at Museo de Zoología, Pontificia Universidad Católica del Ecuador (QCAZ) and the Herpetology Collection, Escuela Politécnica Nacional (EPN-H).

Ron and Pramuk (1999) provided the first report of *Osteocephalus cabrerai* from Ecuador based on specimens QCAZ 10224, 10226, 7358, 7360 collected at Parque Nacional Yasuní, Universidad Católica Scientific Research Station, and Río Yasuní, Provincia Orellana, Ecuador. Subsequently it was reported from Jatun Sacha, Provincia Napo, Güepicillo Reserva de Producción Faunística Cuyabeno, Provincia de Sucumbíos and Tiputini Biodiversity Station, Provincia Orellana (Cisneros-Heredia 2007; Vigle 2008; Yánez-Muñoz and Venegas 2008). Examination of QCAZ 10224, 10226, 7358, 7360 indicate that they are *O. buckleyi*. An *O. buckleyi* from Jatun Sacha (QCAZ 48093) had green dorsal coloration in life and is similar to *O. buckleyi* specimens reported by Jungfer (2010) from the same locality. According to Vigle (2008) only one species of the *O. buckleyi* species complex occurs in Jatun Sacha. Given that Jatun Sacha has been

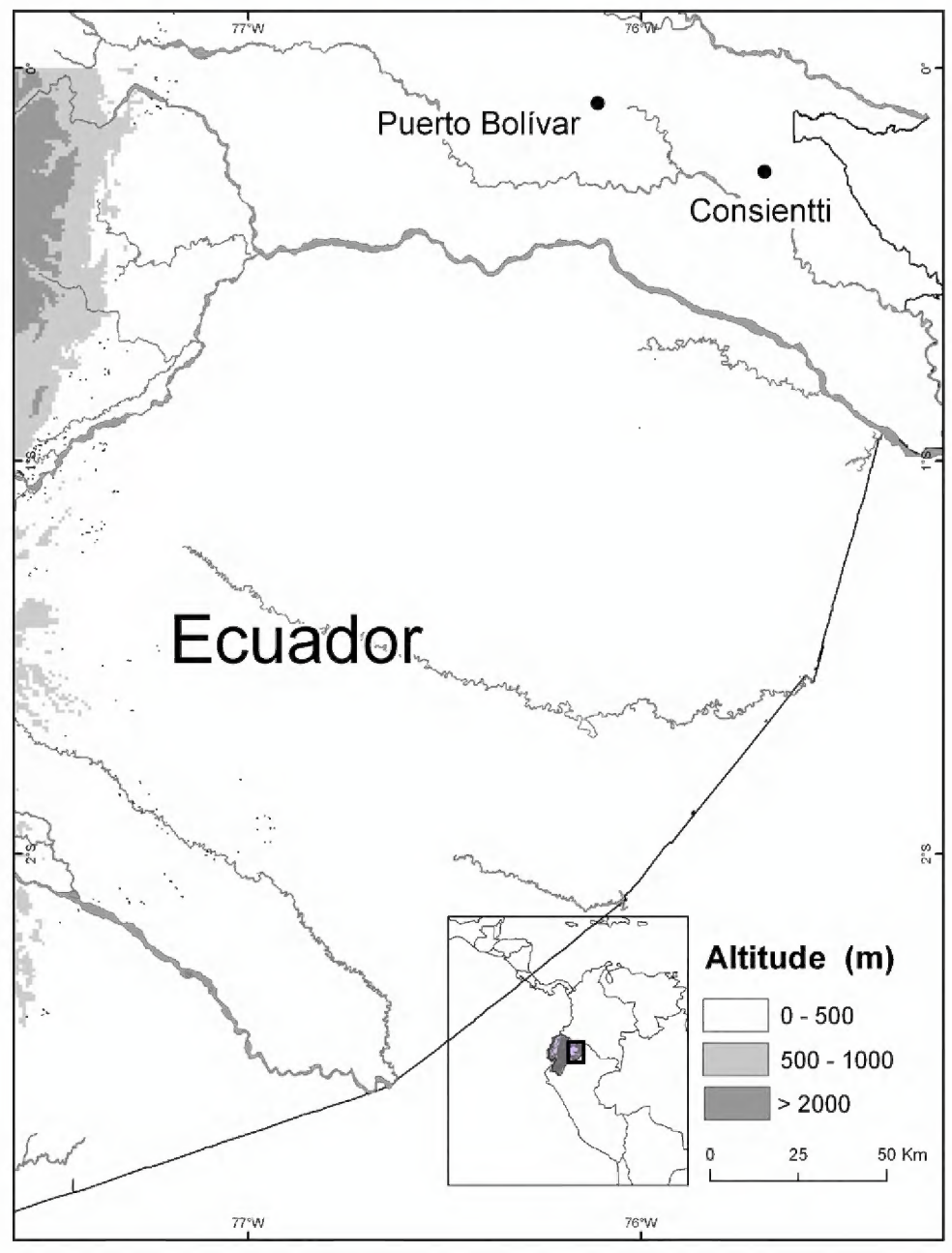

FIGURE 1. Map showing confirmed records of *Osteocephalus cabrerai* in Ecuador based on specimens deposited at Museo de Zoología, Pontificia Universidad Católica del Ecuador (QCAZ) and the Herpetology Collection, Escuela Politécnica Nacional (EPN-H).

thoroughly sampled, his report of *Osteocephalus cabrerai* likely corresponds to *O. buckleyi*. The report of *O. cabrerai* from Tiputini Biodiversity Station and Güepicillo from Reserva de Producción Faunística Cuyabeno are in need of confirmation.

Examination of *Osteocephalus* specimens deposited at QCAZ and EPN-H yielded seven *O. cabrerai*. Two of them were collected in primary forest at Puerto Bolívar (00°05'20.93" S, 76°06'36.03" W; Figure 1) in August 2003 by P. Menéndez and M. R. Bustamante (QCAZ 27923 and 28231). Both individuals were active at night, perching 80 and 90 cm above the ground next to a river. In August 2000, five males (EPN-H 07201–05) were collected 10 km N from Zábalo (Río Aguarico), at the Consientti camp (00°15'46.25" S, 75°41'07.83" W; Figure 1) by A. Almendariz. They were in primary forest, perching between 200 and 250 cm above the ground in vegetation next to a rocky river. Some of them were calling. Similarly to the holotype, the specimens are characterized by the presence of tubercles in the jaw and extensive hand webbing. The identification of QCAZ 27923 and 28231 was confirmed with mitochondrial sequences showing low genetic distances with *O. cabrerai* collected in Colombia (Colombian samples identified by S. Castroviejo).

Our specimens of *O. cabrerai* can be distinguished from *O. buckleyi* by: (1) more extensive webbing on hand (web on outer edge of third finger reaches proximal border of distal subarticular tubercle; in *O. buckleyi* it only reaches one third of the distance between proximal and distal subarticular tubercles); (2) presence of tubercles on the jaw (absent in *O. buckleyi*), and (3) size of keratinized dorsal tubercles (present in breeding males of both species but more prominent in *O. buckleyi*).

In a recent phylogenetic analysis, Ron *et al.* (2010) found strong support for a clade that includes *O. buckleyi*, *O. festae*, *O. mutabor*, and *O. verruciger* characterized by reproduction associated to running water. Assuming that *O. cabrerai* belongs to that clade, the ecological data of the Ecuadorian records would confirm the predominance of that reproductive mode on that group.

Figure 2. Dorsal and ventral views of preserved male *Osteocephalus cabrerai* EPN-H 7201 (above) and EPN-H 7205 (below) collected 10 km N from Zábalo, Provincia Sucumbíos, Ecuador.

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